

Assessment of Second and Third Trimester Vaginal Bleeding with Final Outcome of Pregnancy: A Prospective cohort Study.

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ABSTRACT

Background: Vaginal bleeding at any stage of pregnancy is an alarming event. As it is estimated that approximately one fifth of pregnancies are accompanied by vaginal bleeding, The present study was carried out to investigate the relationship between second and third trimester vaginal bleeding and the outcome of pregnancy. **Methods:** This prospective cohort study population comprises of 150 pregnant women who were booked at the antenatal clinics and presented with complaints of bleeding or spotting per-vaginum in the second and third trimester. These patients were on continuous follow up till their final outcome of pregnancy. **Results:** Out of 100 cases of second trimester bleeding per vaginum, pregnancy continued in 84 cases. Subjects of second trimester with vaginal bleeding have been clinically diagnosed with threatened abortion in 84% patients, missed abortion (08%) followed by incomplete (06%) and complete (02%) abortion. Placenta previa was the leading cause of the vaginal bleeding both in second and third trimester vaginal bleeding subjects 26% and 21%. Forty-eight second trimester cases and 26% of third trimester cases had repeated episode of bleeding. The vaginal and caesarean delivery rate (majority of them were at term) were 33%, 51% and 36%,64% respectively in cases of second & third trimester bleeding groups. **Conclusion:** The overall prognosis of the patients who present in second and third trimester with history of bleeding per vaginum is favorable. At the same time physicians should be aware of the adverse outcomes that are associated with second and third trimester bleeding and remain alert for signs of these complications.

Keywords: Threatened Abortion; Cervical Polyp; Placenta Previa; Abruptio placentae; Preterm delivery.

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INTRODUCTION

Pregnancy is one of the life's major events. The purpose of pregnancy is to get a healthy baby from a healthy mother. Vaginal bleeding at any stage of pregnancy is an alarming event. As it is estimated that approximately 20% of pregnancies are accompanied by vaginal bleeding, hemorrhagic conditions in pregnancy are often encountered in clinical practice.^[1] In fact, vaginal bleeding during pregnancy is one of the most common reasons for unscheduled visits to the emergency room. It is potentially life-threatening and always frightening for the patient and her family. Statistics suggest that 15% to 20% of clinically recognized pregnancies end in miscarriage, and 50% of all pregnancies probably end in miscarriage, but are recognized as a "late period" and not a pregnancy. It is categorised by the gestational age i.e., at the time of its

occurrence into first, second, third trimester and postpartum bleeding. The most common causes of bleeding in second trimester of pregnancy are genetic abnormalities, antiphospholipid antibody syndrome, maternal Thrombophilia, sub chorionic bleeding, incompetent and intrauterine infections. The other causes include anatomical abnormality of the uterus, infections, endocrine disorders, immunological and environment factors.^[2] Genetic abnormalities are found in 5- 10 % cases of second trimester bleeding followed by abortion. In these cases, autosomal trisomies predominate but fetuses with triploidy and monosomy X are occasionally recognised. The best-known immunological cause of second trimester bleeding is Antiphospholipid antibody syndrome. It accounts for 3-5% of patients with second trimester repetitive pregnancy losses.^[3] Maternal thrombophilia in which there is genetically determined abnormal clotting factors causing physiological thrombosis from an imbalance between clotting and anticoagulation pathways. The factors which are commonly involved are protein C and protein S deficiency and factor V Leiden (FVL) mutation. Factor V Leiden and prothrombin gene mutation was most commonly associated with bleeding and miscarriages.^[4] Although there are no

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well-defined indicators of the prognosis of pregnancy, but persistent and recurrent bleeding is poor sign. The size of the hematoma and the severity of the initial bleeding have little prognostic value.^[5] Incompetent cervix is a well-known cause of second trimester bleeding and spontaneous abortion. The main clinical feature of this condition is painless cervical dilatation. The etiology of cervical incompetence is obscure, previous trauma to the cervix, such as dilation and curettage conization, cauterization or amputation has been implicated. It may also be congenital with or without Mullerian anomalies and the patient does not give history of any procedure on cervix which may have led to trauma.^[6] Vaginal bleeding in the third trimester usually prompts urgent evaluation. Investigation of the cause of bleeding includes clinical data as to the amount of bleeding, any associated pain, and assessment of fetal well-being. Potentially serious etiologies include placenta previa, placental abruption, and vasa previa. Preterm labor may also be accompanied by bleeding as the cervix begins to dilate and cervical veins bleed, although usually bleeding is less severe. Less severe bleeding can also be due to marginal sinus separation. Placenta accreta, when present, is often associated with placenta previa; however, the bleeding is typically intrapartum or immediately postpartum. Threatened abortion which is defined as vaginal bleeding before 28 weeks of gestation is a frequent complication affecting about 20% of pregnancies. The present study was carried out to investigate the relationship between second and third trimester vaginal bleeding and the outcome of pregnancy.

MATERIALS & METHODS

This prospective cohort study population comprises of 150 pregnant women who were booked at the antenatal clinics and presented with complaints of bleeding or spotting per vaginum in the second and third trimester. These patients were on continuous follow up till their final outcome of pregnancy. The inclusion criteria consist of patients between 14-40 weeks period of gestation (but not in labour), booked case with history of vaginal bleeding or spotting, singleton / multiple pregnancy. Women who presented with complaints of bleeding/spotting in the second trimester were subjected to urgent ultrasound for diagnosis of threatened abortion and fetal viability and calculation of gestational age. Once the fetal viability was confirmed they were on constant follow up. A level II scan was done between 18-20 weeks period of gestation and placental localisation was done. In the third trimester they again subjected to ultrasonography for placental localisation if previous scan had shown a low-lying placenta. Women who presented in the third trimester with bleeding /spotting per vaginum also subjected to urgent ultrasound for placental localisation if

previous scan had shown low-lying placenta. A per speculum examination was performed to find out any local lesion e.g. cervical erosion, cervical polyp, local varicosities of venous system in the vagina. These patients were also on constant follow up till their final outcome of pregnancy. When these patients were delivered certain neonatal parameters as birth weight, NICU admission, and congenital anomaly if any were recorded.

The measures used for the analysis were maternal age, parity, gestational age at the time of presentation, missed abortion, incomplete abortion, complete abortion. In case of threatened abortion, repeated episode of bleeding continuation of pregnancy, antepartum hemorrhage, preterm labour, intrauterine growth retardation and intrauterine death of fetus. Primary outcome measures were spontaneous abortion and continuation of pregnancy till term.

Statistical analysis:

Nonparametric continuous variables are expressed as the median and inter-quartile ranges and normally distributed variables are presented as the mean \pm standard deviation (SD). Statistical data were analysed using Stata Corp. 2015. Stata Statistical Software: (Release 14) College Station, Texas. Outcomes among 2nd and 3rd trimester pregnant patients with per vaginal bleeding groups were carried out using Kruskal-Wallis tests (data not normally distributed), if statistical significance of differences was detected, then the two-sample Wilcoxon rank-sum (Mann-Whitney) (nonparametric analysis) was used for further comparisons between the two comparison groups. We used the Pearson chi-square test (χ^2 test) and Fisher's exact test to compare proportions. It was proposed to study 50 cases, but a total no of 150 cases were studied. Out of 150 cases, second trimester bleeding group were 100 and third trimester bleeding group were 50. All the patients were taken from an in/out patient department and were subsequently screened using the inclusion and exclusion criteria. These patients were evaluated using standard interview questionnaire.

RESULTS

A total of 150 pregnant patients who reported with complaints of bleeding per vaginum in the second and third trimester were included.

Table 1: Age groups wise distribution in 2nd and 3rd trimester pregnant patients.

Age(year)	II nd Trimester (n, %)	III rd Trimester (n, %)
16-20	12 (12%)	10 (20%)
21-25	30(30%)	14(28%)
26-30	40(40%)	17(34%)
31-35	10(10%)	09(18%)
36-40	08(8%)	00
Total	100 (100%)	50(100%)

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The maximum number of cases are in age group 26-30 years 40(40%) followed by 30 (30%) in 21-25 years in 2nd trimester. The youngest patient was 18 years old and the oldest was 37 years old. Similarly, in 3rd trimester, the majority of patients were in the age group of 26 to 30 years, followed by 21 to 25 years age group.

Table 2: Distribution based on parity

Parity	II nd Trimester		III rd Trimester	
	No of cases	Percentage	No of cases	Percentage
0	50	50 %	19	38 %
1	34	34 %	15	30 %
2	10	10 %	12	24 %
3	06	06 %	04	08 %
Total	100	100 %	50	100 %

The parity distribution of the patients of the 2nd trimester patients were primigravida 50 (50 %), followed by parity 1 (34 %), parity 2 (16%) and parity 3 (6%). While in the 3rd trimester, the majority of patients were in primigravida (38%), followed by parity 1 (30%), parity 2 (24%) and parity 3 (8%).

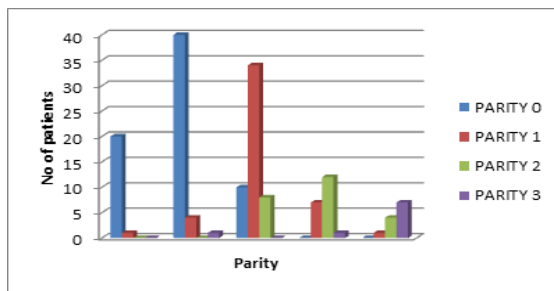


Figure 1: Age and parity distribution of cases of second trimester bleeding

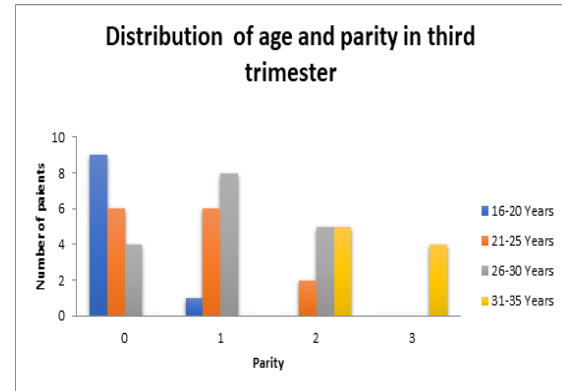


Figure 2: Age and parity distribution of cases of third trimester bleeding.

Subjects of second trimester with vaginal bleeding have been clinically diagnosed with threatened abortion (84%), missed abortion (08%) followed by incomplete (06%) and complete (02%) abortion (table 3). Patients of missed abortion and incomplete abortion ultimately had complete abortion. In majority of cases who presented with bleeding per vaginum in the third trimester the cause of bleeding was placenta previa in 21(42 %) cases and abruptio placentae was present in 15 (30%) cases. No apparent cause of bleeding was present in 11 (22%) patients and in majority of them bleeding stopped. Cervical polyp and cervical erosion were present in 02 (04%) and 01 (02%) cases respectively.

The clinical diagnosis distribution of the patients in the 2nd trimester is shown in [Table 3]. The majority of patients suffered were in the age group 26-30 years followed by 21-25 years.

Table 3: Age group wise clinical diagnosis distribution in 2nd trimester

AGE (years)	Clinical Diagnosis				Total
	Complete Abortion	Incomplete Abortion	Missed Abortion	Threatened Abortion	
16- 20	nil	2	2	12	16
21 - 25	nil	1	1	28	30
26 - 30	nil	nil	1	24	25
31- 35	1	2	2	13	18
36-40	1	1	2	7	11
Count	2	6	8	84	100
	2%	6%	8%	84%	100 %

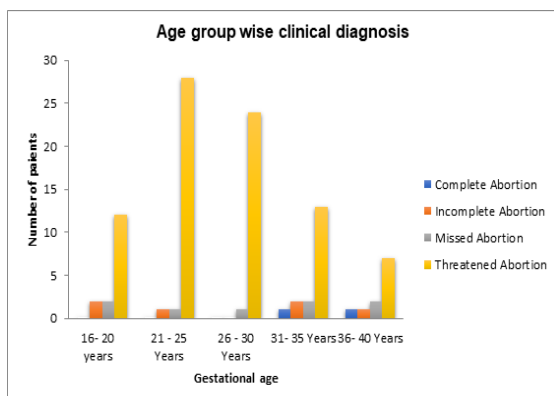
Figure 3: Age groups wise clinical diagnosis distribution in 2nd trimester.

Table 4: Cause of bleeding in cases in whom pregnancy continued

Cause of bleeding	II nd Trim.	III rd Trim.
No obvious cause	42 (50%)	11(22%)
Placenta Previa	26 (31%)	21 (42%)
Abruptio Placentae	14 (16.6%)	15 (30%)
Cervical Polyp	02 (2.4%)	03 (6%)
Total	84 (100%)	50 (100%)

From the study population of 100 patients of second trimester bleeding group, pregnancy continued in 84 patients. In third trimester out of these 84 patients, 42 (42%) had no apparent cause of bleeding, 26 cases (26%) had placenta previa, 14 cases (14 %) had abruptio placentae. In majority of cases who presented with bleeding per vaginum in the third

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trimester the cause of bleeding was placenta previa in 21(42 %) cases and abruptio placentae was present in 15 (30 %) cases. No apparent cause of bleeding was present in 11 (22%) patients and in majority of them bleeding stopped. Patients who were diagnosed with placenta previa in third trimester were lesser than the initial diagnosis of low-lying placenta because of the placental migration. Placenta was low lying in 10 cases (48%), marginal in 04 (19 %), partially covering os in 04 (19%) and completely covering os in 03 (14%) subjects (table 4). A total of 100 patients who presented with complaints of bleeding per vaginum in second trimester, 84 were diagnosed as threatened abortion. Many of them had repeated episodes of bleeding in second trimester.

Out of the 50 patients who presented in the third trimester with history of bleeding per vaginum, many of them had repeated episodes of bleeding till delivery. A total of 13 patients had repeated episode of bleeding compared to 37 patients who do not have repeated episode of bleeding. However, in 2nd trimester repeated episodes of bleeding, total of 48 patients had repeated episode of bleeding compared to 36 patients who do not have repeated episode of bleeding [Table 4]. Most of the time bleeding was small in quantity and responded to conservative management.

Table 5: Maternal outcome in cases who presented with bleeding per vaginum in 2nd and 3rd trimesters

Maternal outcome	II nd Trimester (n=100)	III rd Trimester (n=50)
Abortions	16 (16%)	---
Term vaginal delivery	23 (23%)	10 (20%)
Preterm vaginal delivery	10 (10%)	8 (16%)
Term caesarean delivery	33 (33%)	20 (40%)
Preterm caesarean delivery	13 (13%)	12 (24%)

Out of 100 patients who presented with bleeding per vaginum in second trimester, 16 (16 %) resulted in abortions. Pregnancy continued in 84 patients in which a total no of 54 patients (54%) delivered at term as compared to 30 patients (30%) who delivered preterm by caesarean and vaginal route [Table 5]. Three patients had haemorrhagic shock and required blood transfusion. There were 04 (04%) patients of twin gestation in bleeding groups of second trimester pregnancy. All of them underwent preterm caesarean delivery. Two cases of placenta previa underwent preterm delivery had retained placenta. In one patient the bleeding was torrential and peripartum hysterectomy was done. Out of 50 patients who presented with bleeding in third trimester a total no of 30 (60 %) patients delivered at term by caesarean and vaginal mode of delivery as compared to 20 (40 %) patients who delivered preterm by caesarean and vaginal route [Table 6].

Table 6: Mode of delivery in patients of second/third trimesters (T) vaginal bleeding.

Cause of Bleeding	Total No		Vaginal mode of delivery		Caesarean mode of delivery	
	2nd T	3rd T	2nd T	3rd T	2nd T	3rd T
No cause	42	11	22	06	20	05
Cervical polyp	02	03	00	00	02	03
Low lying placenta	12	10	05	05	07	05
Marginal placenta	06	04	02	02	04	02
Partially covering os	05	04	00	00	05	04
Completely covering os	03	03	00	00	03	03
Abruptio placentae	14	15	04	04	10	11
Total	84	50	33	18	51	32

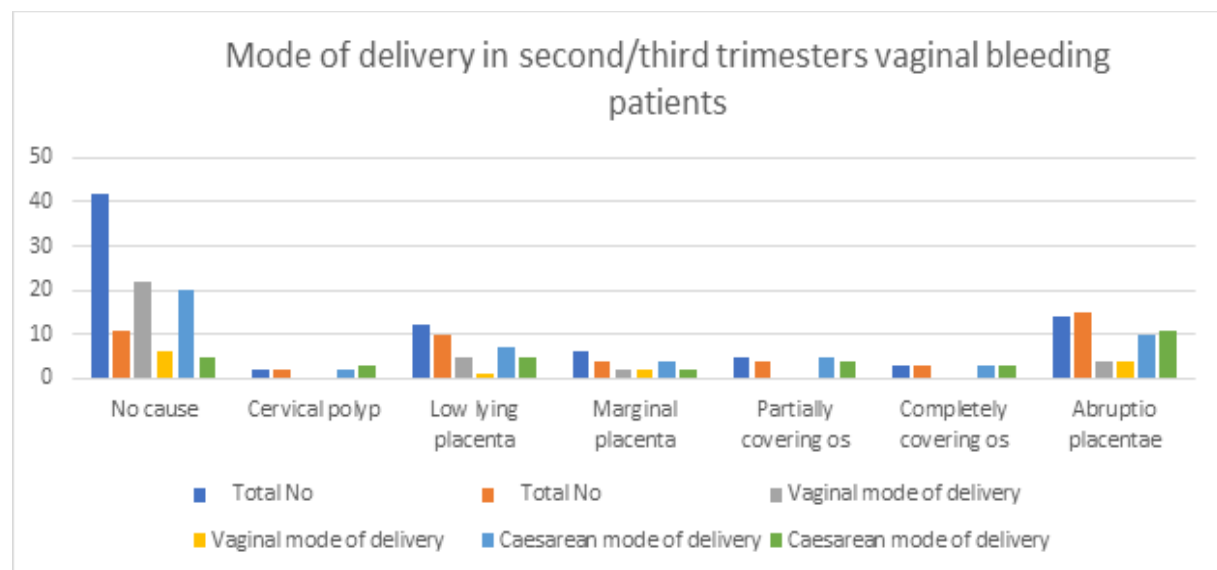


Figure 4: Mode of delivery in patients of second/third trimesters vaginal bleeding in whom pregnancy continued.

In 22 cases where no apparent cause of bleeding was present 05 (5%) underwent preterm vaginal and 17 (17%) term vaginal delivery. In 20 cases where no apparent cause of bleeding was present 02 (2%) underwent preterm caesarean and 18 (18%) term caesarean delivery. A total of 09 (9%) cases of placenta previa underwent preterm delivery and remaining 17 (17%) underwent term delivery by both vaginal and caesarean route. Out of cases of abruptio placentae, 07 cases each underwent preterm and term delivery by both vaginal and caesarean route [Table 6, Figure 4]. While in 3rd trimester, 11 cases where no apparent cause of bleeding was present, out of which 03 (6%) underwent preterm vaginal and 03 (6%) term vaginal delivery, 05 (10%) underwent caesarean delivery in which one was preterm and three were at term caesarean. A total of 06 (10%) cases of placenta previa underwent preterm delivery and remaining 15 (30%) underwent term delivery by both vaginal and caesarean route. Out of cases of abruptio placentae 10 (20%) cases underwent preterm and 04 (8%) underwent term delivery by both vaginal and caesarean route [Table 6, Figure 4].

Table 7: Neonatal outcome in follow up cases in 2nd/3rd Trimester

Fetal outcome	IInd Trim.	IIIRD Trim.
Birth weight < 2500 gm	41 (48.8%)	14 (28%)
Birth weight > 2500 gm	38 (45.2%)	30 (60%)
IUD	02 (2.4%)	05 (10%)
Congenital malformation	03 (3.6%)	01 (2%)

In the fetal outcome of 2nd trimester bleeding cases in which pregnancy continued the birth weight < 2500 gm was present in 41 neonates. A majority of them were delivered preterm and in 38 neonates the birth weight was appropriate for age. Birth weight < 2500 gm because of IUGR was present in 05 patients. In the neonatal outcome of 50 patients who presented with bleeding in third trimester the birth weight < 2500 gm was present in 14 neonates. A majority of them were delivered term and in 14 neonates the birth weight was appropriate for age. Birth weight < 2500 gm because of IUGR was present in 04 patients. Birth weight > 2500 gm was present in 30 neonates [Table 7].

DISCUSSION

Second trimester bleeding per-vaginum affects about 20% of pregnancies and in majority of them the cause remains unclear. The data of the present study shows that second trimester vaginal bleeding is not only associated with abortions but also with adverse maternal and fetal outcome in terms of increased incidence of antepartum haemorrhage, preterm labour, postpartum haemorrhage, congenital malformation, low birth weight. Third trimester vaginal bleeding is associated with increased preterm delivery, intrauterine death, low birth weight neonates and congenital malformations.^[2]

Many studies have been completed in the last decade tried to determine the etiology of bleeding during pregnancy and to establish ways to prevent this daunting occurrence. In a cohort study, to establish the abortion rate of pregnant women of second trimester and final outcome of pregnancy. Out of 117 cases, 67 ended in abortions and in the majority of cases of vaginal bleeding were of unknown origin and were usually slight. In our study out of 100 patients who presented with bleeding per vaginum in second trimester, 16 resulted in abortions. The cause of bleeding in patients of second trimester in whom pregnancy continued was of unknown origin in 42 patients, placenta previa in 26 and abruptio placentae in 14 patients.

The overall rate of abortion in patients who presented with bleeding per-vaginum in second trimester in this study is 16%, which is significantly higher than previously reported rate of abortions rates of 4.5 %, ^[7] 2.6 %, ^[8] 5.5 %, ^[9] and 2.3% respectively.^[10] The previously reported studies had demonstrated the fetal cardiac activity in the first trimester which was not done in the current study. The rate is only in agreement with a rate of 13 % as reported by a study before.^[11] The rate was lesser than the rate of 25 % by Karim et al.^[12] The rate was also significantly high 62% in the 31 to 40 years age group, compared to 25 % and 13 % in the age group 16 to 20 and 21 to 30 years respectively which was concurrent to abortion rates in previous studies in the same age group.

Women who bled during second trimester experienced an overall increased risk of 23 % preterm delivery. It is very less as compared to a study done in past which showed a risk of 52.9%,^[13] comparable to 30.6 % in a study done by Parent O et al,^[7] and more as compared to 14.3 % in a study done by Sipila et al,^[14] 07% in a study done by Karim et al,^[12] and 5.6 % in a study done by John J et al.^[15] This association was lower than the summary risk estimated reported in a meta-analysis of cohort studies (combined OR=2.2, 95 % CI 2.1 – 2.4),^[13] but higher than the estimate recently reported by Yang et al (RR = 1.3, 95 % CI 1.1 to 1.6).^[16] In the present study second trimester vaginal bleeding was more strongly related with spontaneous preterm labour. This finding was dissimilar to those who concluded that vaginal bleeding is more strongly related with preterm premature rupture of membranes.^[17] Yang and Savitz noted that vaginal bleeding in early second trimester is more strongly associated with preterm delivery before 34 completed weeks of gestation than with moderate preterm delivery (delivery between 34 to 36 weeks of gestation) which is consistent in the present study.^[16] In the present study, 05 patients were presented with complaints of bleeding per vaginum at between 14 to 16 weeks of gestation and delivered before 34 weeks. A total of 05 patients who presented before 20 weeks of gestation delivered

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between 34 to 36 weeks of gestation. This association of vaginal bleeding with preterm delivery is within the range of studies of Yang and Savitz.^[16] A total no of 14(14%) patients developed abruptio placentae of second trimester bleeding group; seven of them underwent preterm delivery. This is in concurrence with the study done by Weiss et al,^[13] Mulik et al.^[18] The exact association between second trimester vaginal bleeding and abruptio placentae is not known but is increased in the present study. This is important because the no of cases of abruptio placentae undergo preterm delivery was significant which was 07 (50%) of total abruptio placentae and overall 07% in second trimester bleeding group. Out of the seven patients three delivered vaginally and four by caesarean. Three out of seven patients had haemorrhagic shock and required blood transfusion. Multiple gestation is one of the cause of preterm delivery. There were 04 patients of twin gestation in bleeding groups of second trimester. All of them had multiple episodes of small haemorrhage which was persistent in the third trimester and underwent preterm caesarean delivery. Out of the four patients of multiple gestations two had intrauterine death after crossing the period of viability. None of the studies shows the outcome of twin gestation who presented with history of vaginal bleeding in second trimester. In the third trimester vaginal bleeding group, there were 02 patients of twin gestation. One of them underwent preterm caesarean and another term caesarean which was consistent with the studies of Das et al of 50 %.^[19]

Patients of second trimester bleeding group were more prone to have abruptio placentae and placenta previa. The incidence of placenta previa and abruptio placentae was 26 % and 14 % respectively which is far more than 2.0% and 1.0% respectively as reported in the study by Obed and Adewole,^[20] but less than the combined 73% of the study by Parant et al,^[7] It is comparable with the study done by weiss et al.^[13] In one study, the incidence of lowlying placenta is increased in cases of second trimester vaginal bleeding, it was 18.2% in case group than 1.1 % in control group.^[13] In the index study the incidence of low lying placenta was 12 % in the cases of second trimester vaginal bleeding group. Patients who presented in third trimester with complains of bleeding per vaginum preterm delivery was present in 40 % of cases, which was lesser than in the study of Fishman et al of 59%.^[21] In the present study, preterm delivery because of placenta previa was 12% which is consistent with the study of Ananth et al of 12 %.^[14] Preterm delivery because of abruptio placentae was present in 20% cases which were less than the study of Ananth et al of 39.6%.^[14] Most of the cases of abruptio placentae presented with acute bleeding. In the postpartum period they required blood transfusion. Four of the patients require massive transfusion and one went into DIC.

In the third trimester bleeding group the low lying placenta was present in 10 % cases. A total of nine patients of placenta previa presented with moderate to severe bleeding underwent preterm delivery out of which two delivered vaginal and seven by caesarean. Out of the seven cases who delivered by caesarean had retained placenta. The incidence of retained placenta in this study is 02 % which is comparable to the rate of 5 % as observed by Mantoni,^[22] but not in agreement with a rate of 14 % as reported by Hertz and Heisterberg.^[23] Both the patients having retained placenta were multigravidas having one caesarean delivery each and placenta was anteriorly located in both of them. One was having marginal placenta and other having placenta completely covering os. In the second patient the bleeding was torrential and she underwent peripartum hysterectomy. In the postoperative period blood transfusion was given. A total of seven cases of placenta previa underwent preterm caesarean delivery. A total of seventeen patients underwent term delivery, five through vaginal route and twelve by caesarean. Cervical polyp was present in two cases each who presented with bleeding per vaginum in second and third trimester. The incidence was 02% and 04% in second & third trimester respectively. The polyp removal was not attempted and all of them delivered by caesarean at term. One case of bleeding was identified as cervical erosion causing bleeding in third trimester. She underwent vaginal delivery at term.

The risk of giving birth to a child with congenital malformation is a major cause of concern to the mother with history of second trimester vaginal bleeding. In the index study the congenital malformation in the second trimester bleeding group was 03% which is consistent with the incidence of 2.7 % by a study of Funderburk et al,^[24] and 2.3 % in Tongsong et al.^[25] Out of the congenital malformation present, one of the neonate was having meromelia of left humerus. The remaining two neonates were having minor congenital malformations in form of cleft palate and CTEV. The incidence of congenital malformation in the third trimester vaginal bleeding group is 01. Out of 50 patients of antepartum haemorrhage who delivered one neonate was having minor congenital anomaly in the form of cleft lip. The birth weight of < 2500 gm was present in 26 % cases of second trimester bleeding group which is consistency with the study of Das et al.^[19] Weiss et al,^[13] and Jauniaux.^[15] The birth weight of < 2500 gm was present in 36 % cases of third trimester bleeding group in this study. In most cases the low birth weight was because of shortened gestation and to a lesser extent by fetal growth restriction. It is consistent with the studies of Ananth et al,^[14] Batzofin et al,^[26] Berkowitz et al,^[27] Verma et al.^[28] Intra uterine death was present in two cases of second trimester bleeding group. None of the study

shows any direct association between second trimester bleeding and intrauterine death. In the present study the cause of intrauterine death was abruptio placentae just crossing the period of viability. No study shows a direct association between second trimester bleeding and abruptio later on. In the patients who presented with bleeding per vaginum in the third trimester, 05 (10%) of them had intrauterine death because of abruptio placentae. In various studies the incidence of intrauterine death because of abruptio placentae is as high as 50%. In a study, the incidence of intrauterine death because of abruptio placentae was 41.2 %. The neonate which survived in abruptio placentae had birth weight less than 2500 gm. These neonates are at increased risk of morbidity and mortality.^[29]

In present study overall, second trimester vaginal bleeding was not only associated with abortions but also with adverse maternal and fetal outcome. In a majority of them pregnancy survives but there was increased incidence of repeated episodes of bleeding, antepartum haemorrhage, preterm labour, postpartum haemorrhage, congenital malformation, low birth weight and intrauterine death. Moreover, third trimester vaginal bleeding was associated with increased preterm delivery, intrauterine death, low birth weight neonates and congenital malformations.

CONCLUSION

To conclude, any clinical research that gives insight to the processes and mechanisms operating during pregnancy is useful. The literature today explicitly focuses on the need for identification of risk factors in vaginal bleeding that play an important role in pregnancy outcomes. The clinicians are therefore required to address this issue further. The overall prognosis of the patients who present in second and third trimester with history of bleeding per vaginum is favourable. At the same time physicians should be aware of the adverse outcomes that are associated with second and third trimester bleeding and remain alert for signs of these complications.

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